THE TECHINICAL DESCRIPTION OF THE HYPERX QUADCAST S MICROPHONE

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ENGL 21007 Section: S

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Table of Contents

Introduction

History of the Microphone

The first carbon microphone to created was in 1876, by Emile Berliner, with the help of Thomas Edison. It was a device that turns sound waves into electronic signals, consisting of two metal plates with carbon granules. One of plates were ticker and stationary while the other was thin and acts like a diaphragm, using sound pressure to create electrical resistance between the plate (Fox, 2023). Another microphone was created at that same year by Alexander Graham Bell. He would create the first water microphone using a metal cup with an addition of water and sulphuric acid, making it electrically conductive. The audio was transmitted through a moving armature transmitter and receiver, making it possible through both directions. It was demonstrated in the Philadelphia Convention at that same year (University of Georgia, 2011). Many more microphones were created through many different inventions. Some of these microphone inventions were the moving-coil microphone created by Ernst Werner von Siemens (1877), the vacuum tube created by Sir John Ambrose Fleming (1904), the condenser microphone invented by Edward Christopher Wente (1916), and the wireless microphone invented by Raymond A. Litke (1957). Eventually, the modern times has reached with two recent microphones: MEMS microphone and digital microphone. MEMS microphones are based on silicon micro-machining created in 1983 by D. Hohm and Gerhard M. Sessler. They are useful today because it is cost effective, better performance, smaller size, and handles a lower sensitivity (Fox, 2023). Later, digital microphones was created in 2003 under the name of Solution-D D-0, which was sold in the market.

History of the Company

        HyperX was a company creating the best high-performance memory products that was part of Kingston Technology Company Inc., the largest independent memory manufacturer. They started as a division in 2002 to help PC run faster in higher-demand situations. In 2014, HyperX no longer became part of Kingston after they started creating new gaming products such as mousepads, headsets, microphones, and memory assisting devices. It was created and founded by CEO Daniel Wong along with some of his partners such as COO Hector Ruiz. They first started making memory modules in the comfort of their garage (Shirley, 2023). They were then acquired by HP to help create and expand their gaming products towards thousands of people. They began working on creating many big esports team using their products to enhance their gameplay in action. In 2018, they bought the naming rights to the HyperX Esports Arena Las Vegas, wanting to show that with their core fan base, they can take the responsibility of running the show (Fischer, 2019). The company is still running strong as of today, still selling their gaming products.

History of the QuadCast S

        The HyperX Quadcast S is an upgrade to the original HyperX Quadcast where it had a red lighting on the microphone. Quadcast S provides an RGB lighting that can be control through a program called HyperX NGENUITY. This program allows to change any effects or lighting to the mic itself. Released on September 28, 2020, the QuadCast S provides many great features that make more revolutionary for gaming, streaming, and podcasting. Many of these features include a built-in pop filter, adjustable polar patterns, and RGB lighting. The HyperX QuadCast has the red color design around the mic and it could not be adjusted to a different color. So, the QuadCast S was created as better upgrade to the original QuadCast. Plus, the adjustable polar

patterns can allow to fulfill different purposes in terms of streaming live or playing games (Switzer, 2021). There has been a lot of benefits from many gamers who used the product since it's easy to use and affordable.
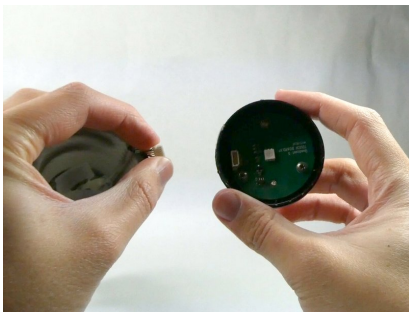
Parts of the HyperX QuadCast S

Exterior Parts

There are many exterior parts to the microphone that runs on the outside of the microphone. One of those parts is the gain control knob. The gain control knob is used to control the volume of the audio being outputted and the sensitivity, shown in Figure 1. When controlling it, it allows you to set a specific

gain that feels comfortable. The knob is located at the bottom of the microphone where there are circles that are ordered in size to represent the amount of gain at max or min level. Another exterior part is the tap-to-mute sensor. The tap-to-mute sensor is has the same shape as the gain

knob except it is located at the top of the microphone. This mutes and unmutes the microphone depending on whether to use it or not, shown in Figure 2. The sensor is touch sensitive so just one finger touching the sensor should turn on the microphone and later turn it off. The sensor also connects to the RGB lighting to give an aesthetic when using the microphone. The last exterior part of the microphone is the polar pattern knob. Figure 3 shows the four setting of the polar patterns. These polar patterns can be adjusted based on what you need to use the mic for such as interviews, podcasts, streaming, gaming, etc. There are four different polar patterns: stereo, omnidirectional, cardioid, and bidirectional. Stereo is used recording

vocals and instruments. Omnidirectional is used for multiperson podcasting and conference calls. Cardioid is used for podcasts, streaming, voice acting, and instruments; which is recommended for many streamers. Finally, bidirectional is used for face-to-face interviews.
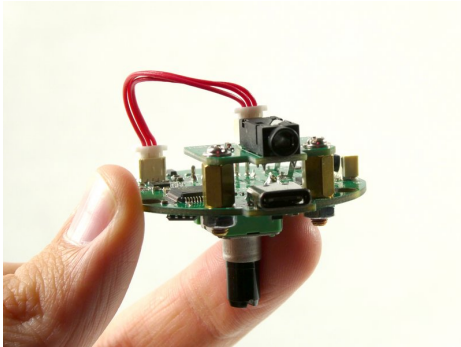
Interior Parts

There are also many interior parts with this microphone. One of which is the pop filter. The pop filter actually helps reduce the unnecessary noise around you and makes your voice clear and professional. The QuadCast S has a built-in pop filter to improve their voice quality on their microphone, shown in Figure 4. It is placed inside the microphone where the hexagon-shaped holes are located. Another interior part of the microphone is the RGB lighting, shown in Figure 4. Surrounding the microphone, the lighting provides a unique aesthetic lighting featuring many effects color from a program. The light shines through the hexagon-shaped holes once the mic is unmuted. The RGB creates a spectrum of light with a choosing of a color and effect that would suit the mic well. The last interior part of the mic is the I/O Board. The I/O board or Input Output Board provides the power the entire microphone, shown in Figure 5. The I/O Board can be acted as an On or Off switch based on Inputs or Outputs. Without the board, the rest of the functioning features in the mic will stop working completely, making it unreliable and unusable. These Input/Output Boards are important to work these types of microphones as they are the power source, the motherboard.

How to Use

The Quadcast S is a easy to use microphone. You connected your microphone USB to the computer, then you determine what kind of gain best suit you, how loud your output could be, and how you want it to sound. There are many settings both on the microphone and on the program. You can adjust how loud the volume of the output should, the monitoring on the mic and volume of the headphones (if it's connected to the headset jack in the microphone). Not only that, you can change the lighting on the RGB, multiple colors to choose from along with different effects, how fast for these lights to appear, etc. The software, NGENUITY, is easy to use when adjusting to what makes you feel comfortable. There is even 4 polar patterns that you can choose based on what usage is it for. Whether it's for professional work like voice acting, vocals, podcasts, and/or interviews, you will have a great quality audio once hearing it back.

Conclusion

In conclusion, the Quadcast S is a really good microphone to use. I brought the microphone as a late birthday present with some extensions such as the microphone arm boom. My original microphone was going to be the Blue Yeti X, since it had many features that were very unique and I wanted to switch to a better microphone. However, on Amazon, it wasn't available so I decided to get the HyperX QuadCast S since it looks really cool with the RGB lighting with full customization to it. Even though it was a USB microphone, it runs very well, and I could take it with me to my cousin's house when we visit them. The microphone so far has no problems, runs very smoothly, and picks up my voice very well.

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